DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-026839
Date Inspected: 12-Dec-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1730
Location: Jobsite

CWI Name:	As noted below			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS OBG

Summary of Items Observed:

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

1. 11W/PP104/W3 Lifting Lug Hole W2 (Exterior)
2. 13W/14W/A1 (Interior)
3. 13W/14W/D2 (Exterior)
4. 13W/14W/D1 Repair (Exterior)
5. 13W/14W/H Repair (Exterior)

1. 11W/PP104/W3 Lifting Lug Hole W2 (Exterior)

This QA Inspector randomly observed ABF welder Mike Jimenez (Welder ID 4671) performing the Shielded Metal Arc Welding (SMAW) process in the (1G) flat position on “A” deck lifting lug hole 11W/PP104/W3/W2. This QA Inspector observed QC Inspector Sal Merino verify that the preheat temperature was at the minimum of 10 degrees C and that the welding parameters (Amps=270) were in accordance with ABF-WPS-D15-1050A-CU. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general compliance with the approved WPS and the contract specifications.

11W/PP104/W3 Lifting Lug Hole W4 (Exterior)

This QA Inspector observed QC Inspector Sal Merino utilize a Bridge Cam Gage to measure the fit-up of the 20 mm plate in the BU-4a joint on lifting lug hole 11W/PP104/W3/W4. This QA Inspector verified the fit-up as acceptable and employed a 65°C Tempilstik to ensure the minimum pre-heat temperature had been achieved. This QA Inspector randomly observed ABF welder Mike Jimenez performing the Shielded Metal Arc Welding (SMAW) process in the (1G) flat position and observed the QC Inspector verify the welding parameters were in accordance with ABF-WPS-D15-1050A-CU. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general compliance with the approved WPS and the contract specifications.

Orthotropic Box Girder (OBG) section: The QC Documents observed being used by this QA Inspector for the following weld joints appeared to be designated as Seismic Performance Critical Members (SPCM).

2. 13W/14W/A1 (Interior)

This QA Inspector randomly observed ABF welder Fred Kaddu performing the back-gouge operation of backing bar material on “A” deck 13W/14W on the interior of the OBG. This QA Inspector observed QC Inspector Sal Merino perform a Magnetic Particle Inspection (MT) of the back gouge to determine the soundness of the metal. Upon completion of the testing this QA Inspector verified that no rejectable indications were present.

3. 13W/14W/D2 (Exterior)

This QA Inspector randomly observed ABF welding operator Jeremy Dolman (ID 5042) performing the Flux Core Arc Welding with gas (FCAW-G) process utilizing a “Bug-O” motorized rail system with a magnetic base attached in the (4G) overhead position on the underside of bottom plate “D”, at 13W/14W of the OBG. This QA Inspector observed QC Inspector William Sherwood monitoring the welding to ensure the welding parameters were in compliance pertaining to ABF-WPS-D15-3110-4. The parameters were recorded as (A=250/V=23/TS=174/HI=2.0). This QA inspector made subsequent observations throughout the shift to monitor quality and noted that the work was in progress and appeared to be in general conformance to the contract requirements.

4. 13W/14W/D1 Repair (Exterior)

This QA Inspector randomly observed ABF welder James Zhen (Welder ID 6001) performing the repair welding operation on an excavation as per the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position on OBG bottom plate section 13W /14W at weld location D1. The excavated area was as noted as a Critical Weld Repair (CWR). At this time a response is pending and this QA Inspector noted that work is ongoing. This QA Inspector observed QC Inspector Mr. William Sherwood verify that the preheat temperature was at the minimum of 325 Degrees F and that the welding parameters (Amps, Volts, and Travel Speed) were in accordance with WPS D1.5 - 1004 Repair. The welding parameters observed at this location appeared to be in general compliance with approved WPS and the contract specifications.

This QA Inspector randomly observed ABF welder Hua Qiang Hwang (Welder ID 2930) performing the

repair welding operation of two (2) ultrasonic rejectable indications as per the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position on “D1” at 13W/14W. This QA Inspector observed the use of E7018-H4R electrodes and QC Inspector William Sherwood verify that the preheat temperature was at the minimum of 325 degrees F and that the welding parameters (Amps=135) were in accordance with WPS D1. 5–1004- Repair. The welding parameters observed at this location appeared to be in general compliance with approved WPS and the contract specifications. The work was completed on this date.

This QA Inspector randomly observed ABF welder Wai Kit Lai (ID 2953) performing the repair welding operation of an excavation as per the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position on “D1” at 13W/14W on the exterior of the OBG.. This QA Inspector observed the QC Inspector William Sherwood verify that the preheat temperature was at the minimum of 325 degrees F and that the welding parameters (Amps=135) were in accordance with WPS D1.5–1004- Repair. Upon completion of the repair, PWHT was performed at the specified temperature for a period of 1 hour.

5. 13W/14W/H Repair (Exterior)

This QA Inspector randomly observed ABF welder Wai Kit Lai performing the back-gouge operation of an ultrasonic rejectable indication on OBG plate section “H” 13W/14W located at "Y" location 1750 mm. The excavated area for repair was: (30 mm wide; 100 mm length; and 16 mm in depth).

This QA Inspector randomly observed ABF welder Wai Kit Lai performing the repair welding operation of an excavation as per the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position on “H” at the above named location. This QA Inspector observed the use of E7018-H4R electrodes and QC Inspector William Sherwood verify that the preheat temperature was at the minimum of 325 degrees F and that the welding parameters were in accordance with WPS D1.5–1004- Repair. This QA Inspector made periodic observations and noted that the work was completed on this date and appeared to be in general conformance with the contract specifications.

14W/PP125/W4 Lifting Lug Hole W2 (Interior)

This QA Inspector randomly observed ABF welder Salvador Sandoval (ID 2202) performing the back-gouge operation on face B of lifting lug hole 14W/PP125/W4/W2 on the interior of the OBG. This QA Inspector observed QC Inspector Sal Merino test the back-gouge utilizing the Magnetic Particle (MT) method and this QA Inspector verified that no rejectable indications were present.

This QA Inspector randomly observed ABF welder Salvador Sandoval performing the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position on “A” deck lifting lug hole 14W/PP125/W4/W2. This QA Inspector observed QC Inspector Sal Merino verify the pre-heat temperature and that the welding parameters (Amps=270) were in accordance with ABF-WPS-D1.5-1110A-Revision 1. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general compliance with the contract specifications.

Note: The QAI reviewed the observations and inspection with QA Lead Inspector, Daniel Reyes, written in this report. No issues were noted by the QAI and the QA Lead Inspector concurs with the QA report.

WELDING INSPECTION REPORT

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Summary of Conversations:

The were no pertinent conversations to report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910 , who represents the Office of Structural Materials for your project.

Inspected By:	Frey,Doug	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer